Hearing cont.

we hear imperfectly when we [illegible]
[illegible] or speak in a very
acute or [illegible] shrill tone of voice - for
the air which is expelled with great
force thro' the glottis (rendered extremely
narrow by the acuteness of the voice) is
thrown into the tympanum thro' the
Eustachian tube
[illegible] in [illegible] so large a quantity
& with such force as to disturb the
harmony between the external & inter=
=nal air, and to protrude the membrana
tympani outwards. [illegible] It is
said that the famous Roman Orator
Tiberius Gracchus frequently lost
the tone of his own voice by speaking
so loud that, he used to cry like an
old woman, nor was he cured of

this fault in speaking untill he carried a servant with him whose ~~used~~ to sound a certain tone upon a pipe to which he always accommo=dated his voice. —

we hear imperfectly when we yawn — owing to the entrance of air thereby being obstructed into the Eustachian tube. —

It is happy for us that sounds are unlike light in not being obtruded upon us at all times. were this the case, we should hear but one of them at once, and lose all the Knowledge & pleasure we derive from their variety & succession. —

we have but one sensation from two impressions made upon the organs of hearing. The reason is obvious. The impressions are made upon the same spot in each ear, & our minds - which are single, will receive but one sensation at once. —

Dr. Reid has expressed a doubt whether a musical ear does not depend upon some peculiarity of organization in that organ. I have no doubt - upon this subject, - for I believe it does not, - on the contrary I believe with the late Dr Gregory that

It is agreeable to observe the progress of the pleasures we derive from our ears in the different stages of life. Children are pleased with simple sounds of any kind. Young people delight in melody, that is in an agreeable succession of tones - While persons more advanced in life can enjoy pleasure only from Harmony, that is tones of different kinds so combined, as to produce a variety of impression upon the organs of hearing. The same changes take place in the objects of taste in the different stages of life. It is remarkable the pleasure derived from mellow sounds is universal. Who ever heard the singing of birds without being delighted with it? nor the notes of all birds are called only - they do not reach to harmony. - There seems to be an original & natural Union of pleasure with certain musical Impressions upon the ear - But this pleasure is greatly heightned by those impressions being associated with certain events, situations, or thoughts with which

every human creature has an innate capacity of acquiring a knowledge of musical sounds. It is true some persons have more genius or taste for music than others – and so have some men more genius or taste for mathematicks than others, but those who want this genius or taste for mathematical learning perhaps from nature a capacity for it – and often from close application to it supply the defect of genius or taste by great attainments in that useful species of knowledge. V

(a) The sense of hearing is next to vision in its importance & uses. Life deprived of this sense says Le Cat is a kind of premature death. — (B)

our minds were affected, the first time we felt them.

The Sense of ~~Vision~~ hearing is next to Vision in its importance & Uses. Life, deprived of this Sense says Le Cat is a kind of premature death.

go to 5 next page

in beating upon [illegible]

That is, that the senses are the avenues of thought, and that without them, we should be reduced to the condition, not of the brutes, but below them; we ~~shall~~ should ~~rank in existence with the trees of the field~~ be but little more than

~~her than~~

V. Thus a sudden flash of lightning
often excites temporary vision or hearing in the
eyes ~~&~~ or ears of persons who have
long been ~~blind~~ blind & deaf. - Thus
too tenor, often excites for ~~the~~ a while
the lost limbs of paralytic patients.
- Suffering ~~is~~ acts like the lightning, & tenor
in the above cases, upon the paralytic
sense of deity, ~~in the man who has lost~~
~~all~~ return to p 433.

~~he would have power no more of a~~
~~God that a brute dog, or a horse,~~ return to p: 433

~~p. 4.~~

The sense of hearing is rendered more acute, and prolonged,

1 By preventing an undue accumulation of wax in it, also of dust which sometimes insinuates into the meatus auditorius. This is to be done by wiping it daily with a wet cloth. 2 By elevating the external ear, & placing the hand behind it.

3 By shutting the eyes and accustoming the ear to distinguish certain sounds - such as those which are emitted by striking different kinds of wood and metals, and the weight or figure of each of them. 4 By an Acoustic.

The wonderful atchievements of the sense of hearing in persons who have lost this eye show the perfection of which this sense is capable. Recollect the fact of the two Drittons mentioned in the lectures upon animal life. There is a blind young man

in this city who can tell the ~~[illegible]~~ character by sit of a horse by hearing the motions of his feet in trotting thro' our Streets. An instance ~~similar degree~~ of acuteness in the sense of hearing after the loss of sight has been noticed by Spalanzani in a bat. The first put out its eyes, & then let it loose in a room. In flying thro' it, it always avoided obstacles of all kinds and turned when it came near a wall owing probably to the difference of sounds emitted by its wings from the reaction of the wall upon the air. That this perception was in the ears of the bat Spalanzani proved by previously destroying its senses of taste & smell, without producing any change in its retreat from the wall. He finally destroyed its sense of hearing, the consequence of which was it lost its power of perceiving its proximity to

the Wall, and fell against to the floor.

Perfection or Acuteness of hearing is highly important & useful in many of the pursuits and professions of men. The huntsman and the Sailor the Warrior have often profited by it. much might added to our knowledge in medicine by extending the powers of this sense - particularly in distinguishing the difference and changes in the Voice and speech, and in the voices made by and all the different notes of pain. respiration in many diseases. the practice of Surgery, an acute sense of hearing would be useful in distinguishing the grating of pieces of bones upon each other, and the noise of the bound in our vocaches for a

is that in a future state of existence, new
senses will be opened for the acquisition
of knowledge — but if the capacity for
acquiring knowledge by the five senses we
possess, may be extended & improved in
the manner that has been mentioned,
the addition of new senses will be un-
necessary for that purpose. Should the sense
of touch be so increased in its powers as to dis-
tinguish the composition of bodies by barely
handling them — Should the sense of taste be-
come capable of detecting the component parts
of the air — Should the sense of smell be
rendered so acute as to receive pleasure from
the odors of a distant country — Should the eye
become so improved in its strength as to
discover the component parts of all
the properties of the sun, and Should the ear become so

stone in the bladder. ~~[illegible]~~ In a profession which requires such an extent of capacity & knowledge as medicine, the cultivation of all the senses in the manner that has been mentioned should form a part of a medical education. In a sick room — we should endeavour to be all touch — all taste — all smell — all eye & all ear — in order that we may be all mind, for our minds as I shall presently say are the products of impressions upon our senses. —

I shall dismiss this part of our subject, by taking notice of an opinion which has been held by some Christian philosophers, and that

V

refined ~~[illegible]~~ to be capable of ~~[illegible]~~ as to converse with the ~~[illegible]~~ spirits or immaterial beings, it would not be a much greater extension of the senses than takes place in them in this world from disease and other causes that have been mentioned. ✓ see below

~~go to p. [illegible] #~~

~~[illegible]~~

✓ The following is the order of ~~[illegible]~~ certainty in the testimony of our ~~[illegible]~~ senses - sight & hearing (from the number of objects which strike the ear at the same time) ~~[illegible]~~ smell & taste. The greater uncertainty of taste than the other senses is evinced by the common saying "De gustibus non est disputandum" - ~~go to p. [illegible] #~~

p. 11

We have thus finished the history of the individual Senses of touch - taste smelling - seeing and hearing, and have mentioned the advantages we derive from each of them. It remains that I take notice of the advantages we derive from the combined operation or actions of them all, and I shall repeat they are the surfaces upon which impressions act in the production of animal life. Air by its action upon the sense of touch extended to the lungs, fluid bodies by their action

2 We are indebted to our senses for an immense map of corporeal pleasure, for an account of which I refer you to my printed lecture upon the pleasures of the senses. & particularly for ~~the~~ ~~its~~ this proximate cause which you will find in the 427 page of the volume of introductory letter. A knowledge of this cause will enable you more readily to understand the proximate cause of pain which will be taken notice of in our patho=
=logy. —

upon the tongue, - Odors by their impression upon the nose, light by its action upon the eyes - and sounds by their impression upon the ear, form a large proportion of the stimuli ~~for~~ to which we owe our animal existence. As we love life & all its animal enjoyments let us therefore duly appreciate our senses. But 3rd we are indebted to our senses for our minds, and for all the advantages we derive from our intellectual, moral and social existence. Without our senses, we should be reduced to the condition, not of Brutes, but

but below them, ~~but below them,~~
-we should be reduced in point of
intelligence, to a level with logs
and stones. ~~[illegible]~~ It is true in
the absence of sensation, emotions might
still be excited in our bodies by certain
external and internal impressions, but
these emotions would produce no ideas,
for ideas are the offspring of previous
sensation, and without senses there could
be no sensation. As well might ~~we~~ I at-
-tempt to excite ~~them~~ an idea, or ~~that~~ that
in this desk by striking it with my
hand, as ~~[illegible]~~ expect to excite a
single idea or thought in the mind
when deprived of the avenues of the

"Nihil" ~~Dapert it again "nihil~~ est in intellectu, quod non prius fuit in sensu": is as true as that we did not make ourselves. As we have our intellectual - moral & social existence therefore let us appreciate our senses.

senses to it. It is agreeable to com-
-plete the gradual ~~influence of~~ order in which the
impression act upon the
senses in evolving the mind. The first
impressions upon the brain the seat
of the ~~brain~~ mind, are made thro' the
medium of the sense of touch.—
-hence from long habit, it becomes
one of the most perfect of all the senses.
The impressions upon this sense I
have said begin in the womb, & hence
as I shall say presently the
origin of Instinct. ~~The~~ It is further
stimulated by the air acting upon
the lungs, and the skin in a new
born infant. The smell of its mother
milk probably forms the next stimulus,
~~bounds next stimulus~~ the taste of

this with ~~the tongue~~ upon its tongue constitutes the next stimulus, sounds then act upon its ears, and light with all the objects of Vision ~~put~~ seem to afford the last stimulus in awakening the faculties of the mind. The more early, and the more constantly these impressions act, the more ~~the~~ mind will be evolved, and vice versa, the fewer and the more feeble the impressions are upon the senses, the less ~~was found~~ there will be of mind. Were the diminution of the number or activity of the senses in followed by a diminution of mind; this is most obvious in ~~loss~~ the loss of hearing, which is always ~~in~~ attended with a decay of intellect. where —

V mind completely formed by the com-
~~V dear channels~~ -bined operations
of all the Senses ? ~~4~~ { Dear Channels
of our exalted rank in the Scale of
Beings and of all our knowledge and
pleasures — Your

V have existed Sects of philosophers
who have denied their importance
and usefulness in the acquisition of
knowledge, and who have ~~[illegible]~~ endeavoured
~~to~~ persuade us into general Scepticism
by teaching us to doubt or disbelieve the
testimony of our senses, and to eject
all the knowledge we acquire by them.
~~[illegible]~~

shall we find language to express our obligations to the Author of these previous instruments of our ~~rank as~~ ~~Those~~ ~~Immortal~~ ~~humanity of our~~ ~~Immortal~~ rational and immortal ~~beings~~ existence? I once met with a Clergyman who composed an inventory of his property. In this inventory he included his eye sight, and his sense of hearing each of which he valued at £10,000. ~~At this rate of appreciating the losses the Value of the whole of them~~ But how trifling is this sum compared with all the wonderful capacities and unlimited enjoyments of a ~~completely forced~~ ~~humanity~~ ~~[illegible]~~ Beyond all calculation & Above all price. Their Value is ~~[illegible]~~

After this Account of the advantages we derive from our senses, you will hear with surprise, that there

(C) There has always been among men the same disposition to usurpation in science that there is of power. The philosophers who have depreciated the testimony and uses of our senses in acquiring knowledge have ~~vainly~~ extolled reason exclusively, at this expense, thereby meaning to teach the bulk of mankind who possess senses only that they are unfit to think for themselves, and that it belonged to the men of reason only to govern the opinions of the world.

We hear much Cant:n of the Craft of the Church, but I am satisfied there is more Craft in philosophy, and I am sure there never existed a Sect of

V I have barely mentioned the absurdities & nonsense of some of the opinions of ~~the opinions~~ these philosophers respecting the senses. I shall enumerate a few ~~more~~ of them.

They have taught, that our senses deceive us when we speak of heat or cold, & light sound, - for that they are all form mere perceptions of the mind, & that they have no existence in nature - They have taught further that our ideas are not the images of external objects, but creatures of the mind wholly unconnected with the objects that excite them - nay, they have gone further, - and have taught that there is no such thing as matter independant of ideas, and that ~~all the~~ ~~matter~~ ideas the earth - the sun - the moon - even our own flesh which we feel have no real existence, but are all more illusions of the senses.

Christians — nay I will ~~say~~ add further,
I am sure there never existed a Sect
of Pagans who believed in one half
the Absurdities and nonsense which
are inculcated in the writings of
Hume, Voltaire, Helvetius, Mirabeau,
Godwin, Tom Paine and many others
~~Infidel Philosophical Writers~~ who have ad=
=vocated the perfection and divinity of
human Reason as the only guide
to knowledge and happiness. V

But let us inquire how far
our Senses against which these philo=
=sophers have raised so much clamour,
deceive us. This inquiry will teach
us that their supposed Deceptions de=
=pend wholly, not upon the Senses, but

the imperfection of human reason. The appearances which are supposed to be prove the fallacy of the Senses may be reduced to four heads.

1 Many things are called deceptions of the Senses which are false Conclusions drawn from this testimony, and founded upon the imperfect exercise of our Senses. 29. If I see an Artificial rose, and presume it to be a real one, the deception arises from my not subjecting it to the examination of ~~some~~ ~~these~~ the Senses of Smelling & touch as well as to that of Seeing, agreeably to the laws of the Senses formerly mentioned. It is strange this remark has been so little attended to,

since it is obtruded upon us by the practice of every infant that comes into the world. They first examine things by their eyes, – then they handle them, afterwards they put them into their mouths in order to subject them to the sense of taste, and sometimes we ob=serve them to shake them as if to subject them to the sense of hearing.

4. Many of the deceptions of our senses arise from certain acquired or habitual perceptions. Thus after having long been accustomed to the sight of a globe, I should accidently see an exact dis=tribution of light & colors upon can=vas which I have ~~for~~ been accus=tomed to see upon a globe, I suppose

it to be a <u>real</u> Globe. The testimony of my eyes here is true, but my error lies in the conclusion drawn from that testimony, viz that the Object I see has three Dimensions, and a Spherical figure. To this class of ac=quired or habitual Deceptions belong all the errors of Senses with respect to the magnitude and distance of the heavenly bodies.

A 3rd Source of the supposed Deceptions of our Senses arises from our igno=rance of the laws of nature. The crook=ed appearance of a stick in the water, — the circle of fire which ap=pears from waving a burning coal

with a quick hand, — the small
size of the Sun and the moon, &
the ~~Hathaway position~~ apparent motion of the Sun
~~in the Earth of~~ are all deceptions
of this kind. They are all corrected by
reason, for the Being who gave
us Senses intended to connect their
exercise with reason as much as
he intended to connect the exercises
of two or more of the Senses with
each other. This connection of reason
with the use of the Senses is happily
expressed by one of the prophets
in his prediction of the future cha=
=racter of the Messiah. "He shall
make him of quick understanding,

and he shall not judge after the sight of his eyes, neither reprove after the hearing of his ears" Isaiah 3. 11 intimating thereby the necessary connection of the exercises of the Understanding with those of the Senses in acquiring knowledge, & deciding with truth and equity upon the affairs of men.

A 4th Source of supposed deceptions in the Senses arises from their diseases. Thus we see double when we not direct both eyes to the objects we wish to examine, but this proves the imperfection, & not the fallacy of the Senses. The same objections apply with equal force to the use of ears

memories, imaginations & under=
=standings, for they are all equally
liable to fallacy from disease.

Besides the two channels for obtai=
=ning knowledge which have been
named, viz our Senses & our reason,
there is a third called testimony which
acts through what I shall hereafter
Denominate the principle of faith.
They were all three as much intended
~~for our use~~ to aid us in acquiring
knowledge, as all the Senses, or as
two eyes, or two ears are given to
us as capacities of impressions, to
the philosopher might as well ad=
=vise us to destroy a part of our
Senses, as rely exclusively upon
all our Senses - or upon our

reasons or upon testimony for the acquisition of knowledge. These three sources are not only necessary for that purpose, but they all three ~~are~~ act involuntarily upon our minds in producing conviction, or acts of our judgment. I shall illustrate each of them. I now see ~~between 300 & 400 gentlemen~~ a number of gentlemen assembled in this room listening with attention to what I am now delivering. This is an act of my sense of vision. It is an ~~involuntary~~ involuntary act as the pulsation of my heart.

2 I am sure you cannot occupy your seats in this room, & seats in

In assenting to this report I obey a law of my nature, and were I say I disbelieved it, you would justly call my veracity in question, or suppose my mind not to be in a sound state. —

your own houses ~~the Dioctorical Chantre~~ at the same time. This is an act of my reason, and I cannot more resist a belief of it than I can the evidence of my Vision in the former case. –

3. I believe there exists in the State of Massachusetts a town called Boston. It ~~have it~~ is true I have never seen it, but so many people have told me that they ~~had~~ were born in it, or lived in it, or passed thro' it, ~~that~~ that I am compelled in spite of myself to believe there is such a town ~~whether I do in spite of myself~~, and ~~as~~ with as much ~~confidence~~ certainty as I do my eyes and my reason in the facts I have just now mentioned.

V have arisen from this act of dis=
=organization of the works of the
Author of ~~Authors~~ nature. Spectres, and
apparitions would have been un=
=known had the necessary connection
of the Senses alone ~~been~~ called in to decide
upon them. For example – Ghosts it
has been said have been seen & heard,
but never handled. now I said formerly
touch is absolutely necessary to the cor=
=rectness of Seeing & hearing. But 2.ly
~~against~~ a
belief in Ghosts is contrary to reason
for a material being cannot see an
immaterial being, and 3.ly ~~it is~~ a belief
in them is contrary to one the laws of
testimony, ~~for this~~ which requires the concur=
=rence of several witnesses – now Ghosts or
Spirits are generally seen ~~by one~~ person
only, and that person – generally under

Let us therefore always recollect 1. 22
the dependance of the Senses upon each
other of which I mentioned to many
instances formerly & 2 the original,
natural & necessary Connection of the
Senses, reason & testimony with
each other for the purpose of acquiring
correct knowledge upon all ~~knowledge~~ subjects.
This ~~is the order established by Heaven~~ Union of the Senses, ~~reason and~~
~~when~~ with each other, and of all the
Senses with reason and testimony, was
established by our Creator as the only
certain means of our discovering truth.
— In the language of the marriage Ser=
=vice therefore, I thus boldly proclaim "What
God has joined together, let no man
put asunder". — A thousand errors

the influence of great terror, or a strong predisposition to believe in Ghosts from a Defective education.